

REMARKS

Initially, Appellant believes that the Examiner in this application has failed to properly apply the current law regarding obviousness under 35 U.S.C. § 103. Consequently, some explanation of the current state of the law is necessary.

The Supreme Court recently addressed the issue of obviousness in *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727 (2007). The Court stated that the *Graham v. John Deere Co. of Kansas City*, 383, U.S. 1 (1966), factors still control an obviousness inquiry. Those factors are: 1) “the scope and content of the prior art”; 2) the “differences between the prior art and the claims”; 3) “the level of ordinary skill in the pertinent art”; and 4) objective evidence of nonobviousness. *KSR*, 127 S.Ct. at 1734 (quoting *Graham*, 383 U.S. at 17-18).

While the KSR court rejected a rigid application of the teaching, suggestion, or motivation (“TSM”) test in an obviousness inquiry, the Court acknowledged the importance of identifying “a reason that would have prompted a person of ordinary skill in the relevant field to combine the element in the way the claimed new invention does” in an obviousness determination. *KSR*, 127 S.CT. at 1731.

As noted above, the Supreme Court in KSR stated that the Examiner must provide “some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”, such that the Examiner must “identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.” It stands to reason, therefore, that the Federal Circuit’s precept in *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984), still is good law in this respect, that if proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. (Cited in MPEP, 2143.01.V)

Appellant also notes that it is improper to combine references where the references teach away from their combination. (*In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983)). This principle was cited with approval in *KSR*. The Supreme Court in *KSR* discussed in some detail *United States v. Adams*, 383 U.S.

39 (1966), stating in part that in that case, “[t]he Court relied upon the corollary principle that when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious.” Accordingly, it remains improper to combine references where the references teach away from their combination.

According to the Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in view of *KSR International Co. v. Teleflex Inc.*, Federal Register, Vol. 72, No. 195, 57526, 57529 (October 10, 2007), once the *Graham* factual inquiries are resolved, there must be a determination of whether the claimed invention would have been obvious to one of ordinary skill in the art based on any one of the following proper rationales:

(A) Combining prior art elements according to known methods to yield predictable results; (B) Simple substitution of one known element for another to obtain predictable results; (C) Use of known technique to improve similar devices (methods, or products) in the same way; (D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; (E) “Obvious to try”—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; (F) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art; (G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention. *KSR International Co. v. Teleflex Inc.*, 550 U.S._, 82 USPQ2d 1385 (2007).

Furthermore, as set forth in *KSR*, quoting from *In re Kahn*, 441 F. 3d 977, 988 (CA Fed. 2006), “[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasonings with some rational underpinning to support the legal conclusion of obviousness.”

Furthermore, as set forth in MPEP 2143.03, to ascertain the differences between the prior art and the claims at issue, “[a]ll claim limitations must be

considered” because “all words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385.

If the above-identified criteria and rationales are not met, then the cited references fail to render obvious the claimed invention and, thus, the claimed invention is distinguishable over the cited references.

It is believed that the examiner here has not adhered to the criteria and rationale that is reflected by the current law and guidelines. In the prior office action, the examiner rejected claims 1 and 13 as being anticipated by Booth. Now the examiner has now agreed that Booth did not anticipate these claims, but has now rejected them under 35 U.S.C. § 103(a) over Booth in view of Runaldue, stating “by broadly interpreting the combination of the SERDES device, G/MII device and links which is claimed stating that Booth discloses an apparatus and a method for interfacing a media access controller (MAC) and a physical layer device (PHY) for operating as either a gigabit media independent interface or a 10-bit interface.

Applicant respectfully traverses this rejection and disputes that Booth does in fact teach or suggest a physical layer device for operating as either a gigabit media independent interface and a 10-bit interface.

In fact, the examiner now admits that Booth differs from the claims and that it does not specifically show a multiplexer for multiplexing data and control signals that are normally applied to a predetermined number of pins to a significantly lesser number of pins, but indicates that “it is well known in the art and commonly used in the communications field for cost reduction.” This is very close to taking a position of official notice and applicants expressly do not acquiesce to the taking of official notice and respectfully request that the examiner provide an affidavit to support any official notice taken as required by 37 CFR 1.104(b)(2) and MPEP § 2144.03.

The examiner now combines Booth with Runaldue as teaching the use of a multiplexer for multiplexing data and control signals. It is believed that Runaldue is misapplied or mischaracterized because it clearly does not map data and control signals that are normally applied to a predetermined number of pins to a lesser number of pins. The multiplexer of Runaldue in Fig. 4 is used to interconnect a GPSI 100

such as shown in the PRIOR ART block diagram of Fig. 2 to a pad 204 as shown in Fig. 4. It merely eliminates having a pad for each of the GPSI units. By comparing Fig. 2 with Fig. 3, it is clear that all of the data and control lines are identical and therefore the data and control signals that are *normally applied to a predetermined number of pins are still applied to the same predetermined number of pins, and not to a lesser number of pins* as is required to meet the language of the claim. It is believed that the multiplexing functionality of Runaldue has little relevance to claim 1.

As previously emphasized, Booth has no discussion whatsoever regarding a reduced number of pins. It is not believed to even be mentioned in the entire specification and particularly in the sections specifically identified in Section 3, page 2 of the office action. More fundamentally, claim 1 is directed to an apparatus which has a physical layer device for operating as either a gigabit media independent interface or a 10-bit interface. Booth simply does not have *a* device that operates as either a gigabit media independent interface or a 10-bit interface. Column 12, lines 18-45 of the Booth specification describes Fig. 5 in detail and it clearly has *two* devices, one of which is a SERDES device 430 that operates as a 10-bit interface and another different G/MII device 440 which operates as a gigabit media independent interface. The circuitry includes a link switch 420 which can switch between the devices 430 and 440.

Runaldue is also not capable of teaching or suggesting an apparatus for interfacing a media access controller (MAC) and a physical layer device (PHY) for operating as either a gigabit media independent interface or a ten bit interface, transferring data at a predetermined clock rate while substantially reducing the required number of input and output pins,

Since they are different devices and since they are not concerned with mapping data and control signals that are normally applied to a predetermined number of pins to a lesser number of pins, it is believed that Booth or Runaldue, applied singularly or in combination, totally fail to teach or suggest claim 1.

Claim 13 is also directed to a method of interfacing a media access controller (MAC) and a physical layer device (PHY) for operating either as a gigabit media independent interface and a 10-bit interface and transfer data at a predetermined

rate while substantially reducing the required number of input and output pins. For the same reasons, Booth and Runaldue therefore also totally fail to teach or suggest this claim.

Claims 8 and 12 have now been rejected under 35 U.S.C. 103(a) as being unpatentable over Booth in view of Runaldue and further in view of Crayford. Applicant respectfully traverses this rejection for the reason that Booth totally fails to teach or suggest a media interface as claimed which includes a physical layer device for operating as at least a gigabit media independent interface and a 10-bit interface as discussed above and neither Runaldue or Crayford supply this basic deficiency. Moreover, claim 8 states “said interface multiplexing the data and control signals that are applied to a reduced number of pins using both edges of said clock signal and for selectively mapping the data and control signals to a reduced number of pins, wherein CRS and COL control signals are applied on a single pin.” None of these three patents teach or suggest this feature of the claim.

The examiner contends that “Crayford teaches the pin count reduction by combining CRS and COL control signals on the same channel/pin . . . , which can be easily adopted by one of ordinary skill in the art into the device of Booth in view of Rinaldue to provide control signals multiplexing to further improve the system efficiency.” This is believed to be a distortion of Crayford and does not fairly treat the reference as a whole. When the language which the examiner cites to is read, it is clear that Crayford does not teach a pin count reduction by combining CRS and COL control signals on the same channel or pin. The examiner’s characterization of this text is simply incorrect and misapplies Crayford in the rejection of these claims.

More particularly, when column 6, lines 3-57 are read, it is clear that something entirely different than that claimed by applicant here is being done. The patent states that

“the ability to assign channel functions either through hardware or software provides addition pin savings while increasing flexibility and functionality of the repeater 100.” (Col. 6, lines 3-6).

The purpose of reassigning channel functions is to provide support for *both TX and T4 protocols*, on a per port or group of ports

basis without adding pins by appropriately reconfiguring repeater devices 105 and interface device 110. (col. 6, ln 6-9)

A TX protocol requires a false carrier (FLS_CRS) from a PHY device to the repeater device 105 while the T4 protocol does not use FLS_CRS. However, for the TX protocol, the COL channel can be denied by the repeater device 100, whereas for the T4 protocol the COL channel must be provided. (col. 6, ln 10-15)

The COL channel shown in FIG. 2 is made selectively configurable depending on which mode is desired. *For use as a T4 PHY, the COL channel remains as described above. For TX PHY mode, repeater device 105 reconfigures the COL channel as the FLS_CRS channel. (col. 6, ln 19-22)*

For TX operation, the TX PHY not only uses the COL channel as the FLS_CRS channel, it activates the CRS channel during only receive carrier, not for receive carrier or transmit carrier as defined in the 802.3u standard. (col 6, ln 22-25)

A TX PHY indicates a collision condition to repeater device 105 by asserting CRS (receive active) and use of TX_EN (transmit active). Repeater device 105 detects the simultaneous transmit and receive activity, so it has no need of the COL channel when in TX PHY mode. (col. 6, ln 26-30)

All of the above blocked out and selectively emphasized text clearly indicates that Crayford does not have “a media interface for a media access controller (MAC) and a physical layer device (PHY) for operating as at least a gigabit media independent interface and a ten bit interface, . . . said interface multiplexing the data and control signals that are applied to the reduced number of pins using both edges of said clock signal and for selectively mapping the data and control signals to the reduced number of pins, wherein CRS and COL control signals are applied on a single pin.” There is nothing in Crayford that remotely suggests such claim language. For the same reasons, claim 12 is believed to be allowable.

The dependent claims should also be allowed because they incorporate the subject matter of the independent claims from which they depend and in addition claim other features and/or functionality not found in those claims.

For the foregoing reasons, reconsideration and allowance of all pending claims is respectfully requested. If this amendment raises any further issues that warrant discussion, it is requested that the examiner call the undersigned at the examiner's early convenience.

Respectfully submitted,

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